

Claims

1. Method for recording data by means of an array of micro-tips (6) arranged in a plane facing a memory support (1), comprising a stack of thin layers with at least one deformable memory layer (2), method comprising data recording by selective actuation of the micro-tips, method characterized in that the micro-tips being fixed directly onto one and the same support substrate (7), the method comprises bringing the array of micro-tips and the memory support into contact with a predetermined pressure, before selective actuation of micro-tips for data recording, said pressure enabling the dispersion of the dimensions of the micro-tips of the array of micro-tips (6) to be absorbed by the deformable memory layer (2).
2. Method according to claim 1, characterized in that data recording is of electric type.
3. Method according to claim 1, characterized in that data recording is of thermal type.
4. Method according to claim 1, characterized in that data recording is performed by applying a mechanical pressure greater than the pressure of bringing into contact.
5. Recording device for implementation of the method according to any one of the claims 1 to 4, comprising an array of micro-tips arranged in a plane facing a memory support, comprising a stack of thin layers with at least one deformable memory layer (2), means for absorbing the dispersion of the dimensions of the micro-tips of the array and means for recording by selective actuation of the micro-tips, device characterized in that the deformable memory layer constitutes said means for absorbing when the memory support and the array of micro-tips are brought into contact, at said predetermined pressure, the micro-tips, having

an apex of nanometric dimension, being fixed directly onto one and the same support substrate (7).

6. Device according to claim 5, characterized in that the memory layer (2) is
5 deposited on a flexible layer (3) deposited on the substrate (4).

7. Device according to claim 6, characterized in that the flexible layer (3) is made of polymer.

10 8. Device according to claim 7, characterized in that the flexible layer (3) is made of photoresist.

9. Device according to claim 6, characterized in that the flexible layer (3) is a glue of controlled hardness.

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10. Device according to claim 6, characterized in that the flexible layer (3) is made of elastomer silicone.

11. Device according to any one of the claims 6 to 10, characterized in that the
20 flexible layer (3) has a thickness of about a few micrometers.

12. Device according to any one of the claims 6 to 11, characterized in that the flexible layer (3) is conducting.

25 13. Device according to any one of the claims 6 to 11, characterized in that it comprises an additional conducting layer between the memory layer (2) and the flexible layer (3).

14. Device according to any one of the claims 5 to 13, characterized in that the
30 memory layer (2) has a thickness of less than one micrometer.

15. Device according to any one of the claims 5 to 14, characterized in that it comprises an interface layer (5) with the micro-tips (6), covering the memory layer (2).

- 5 **16.** Device according to any one of the claims 5 to 15, characterized in that the substrate (4) is made of silicon.

- 10 **17.** Device according to any one of the claims 5 to 16, characterized in that the substrate (4) is made of plastic material with a thickness of less than one millimeter.